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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,574	09/11/2006	Wojciech Piasiecki	PL-CRC/03/05	3321
7590 Michael M Rickin Abb Inc Legal Department 4U6 29801 Euclid Avenue Wickliffe, OH 44092-1832			EXAMINER WILLOUGHBY, TERRENCE RONIQUE	
			ART UNIT 2836	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/564,574

**Applicant(s)**

PIASECKI ET AL.

**Examiner**

TERRENCE R. WILLOUGHBY

**Art Unit**

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant's arguments, see page 2, line 15 thru page 3, lines 1-5 filed on June 6, 2008, with respect to claims 1 and 8 have been fully considered and are persuasive. The final rejection of claims 1-14 of the office action dated April 25, 2008 has been withdrawn. Therefore, Applicant's amendment filed on June 20, 2008 has been entered. Accordingly no claims have been amended, added or cancelled. Therefore, Claims 1-14 remain pending in the present invention. It also included remarks/arguments.

#### ***Allowable Subject Matter***

2. The indicated allowability of claims 6-7 and 9-14 are withdrawn in view of the newly discovered reference(s) to Robel et al. (US 5,939,839). Rejections based on the newly cited reference(s) follow.

#### ***Claim Objections***

3. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 is written as being dependent upon it self (i.e. Claim 9, recites, "The transformer system of claim 9.")
4. Claim 9 also recites the limitation "the attenuating resistor" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Schempp (US 4,794,948).

7. Regarding claims 1 and 8, Peiser et al. in (Fig. 1) discloses a protecting system for three single phase transformers having three auxiliary secondary windings that are connected to form an open delta configuration the protection system comprising:

an attenuating resistor (R) connected into the open-delta configuration of three auxiliary second windings (wr3, ws3, wt3) of the three single-phase transformers (Wr, Ws, Wt), which is deactivated by at least one of the protective switching devices (rr, rs, rt) when a relaxation oscillations occurs to prevent thermal destruction of the voltage transformers and attenuating resistor (R). The protective switching devices (rr, rs, rt) are connected in series between the output (U) of the auxiliary secondary winding (wr3, ws3, wt3) and one of the single-phase transformers (Wr, Ws, Wt) and the attenuating resistor (R). See pages 6-8.

Peiser et al. does not disclose that either one of the protective switching devices (rr, rs, rt) is a thermal fuse and is connected in series with an element with a threshold voltage and current characteristic.

However, Schempp in (Fig. 1), discloses a protection circuit comprising a thermal fuse (21) connected in series with an element with a threshold and current characteristic (23) and a resistor (25) at the output winding (14) of a solenoid (28). See col. 2, ll. 10-25 and ll. 40-49.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protective switching device of Peiser et al. with the thermal fuse connected in series with the element with an threshold voltage and current characteristic and a resistor as taught by Schempp to protect the circuit components of Peiser et al. from over-currents conditions.

8. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Schempp (US 4,794,948) as applied to claims 1 and 8 above, and further in view of Streater (US 3,467,903).

9. Regarding claim 2, Peiser et al. in view of Schempp discloses the protecting system of claim 1, except for wherein the thermal fuse comprises a bimetallic circuit breaker, and the element with a threshold voltage and characteristic comprises two zener diodes push-pull connected with one another.

However, Streater in (Fig. 9) discloses a thermal fuse in the form of a bimetallic circuit breaker (69), and a element with a threshold voltage and characteristic having the form of two zener diodes (72,73) configured in a push-pull connection with one another.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the bimetallic circuit breaker and the two zener diodes configured in a push-pull configuration as taught by Streater in the protective system device of Peiser et al. and Schempp to provide a much simpler and reliable thermal protective circuit.

10. Regarding claim 3, Peiser et al. in view of Schempp and in view of Streater discloses the system of claim 1, wherein the thermal fuse (Streater, Fig. 10, 79) comprises a PTC resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises two zener-diodes (Streater, Fig. 9, 72, 73) in a push-pull connection with one another.

11. Regarding claim 4, Peiser et al. in view of Schempp and in view of Streater discloses the system of claim 1, wherein the thermal fuse is a PTC resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises a varistor (Streater, , Fig. 9, 71).

12. Regarding claim 5, Peiser et al. in view of Schempp and in view of Streater discloses the system of claim 1, wherein the thermal fuse is a thermal fuse in the form of a bimetallic circuit breaker (Streater, Fig. 9, 69), and the element with a threshold voltage and current characteristic is a varistor (Streater, Fig. 9, 71).

13. Claims 6-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Schempp (US 4,794,948) as applied to claims 1 and 8 above, and further in view of Robel et al. (US 5,939,839).

14. Regarding claim 6, Peiser et al. in view of Schempp discloses the system of claim 1, except for wherein a second resistor is connected in parallel with the thermal fuse and the element with a threshold voltage and current characteristics.

However, Robel et al. in (Fig. 3), discloses a second resistor (3) connected in parallel with a thermal fuse (5) and an element (1, 4) with a threshold voltage and current characteristics.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protective switching device of Peiser et al. in view of Schempp by incorporating a second resistor connected in parallel with a thermal fuse and an element with a threshold voltage and current characteristics as taught by Robel et al. to provide a protection circuit against high temperatures by arranging a current limiting resistor connected in parallel to the PTC resistor thereby controlling the current through the circuit to a safe level in the case of high operating temperatures.

15. Regarding claim 7, Peiser et al. in view of Schempp and in view of Robel et al. discloses the system of claim 6, except for wherein the second resistor (Robel et al., Fig. 3, (3)) has a larger resistance than the attenuating resistor (Peiser et al., Fig. 1, (R)).

However, it would have been obvious to one of ordinary skill in the art the time the invention was made to have set the second resistor (Robel et al., Fig. 3, (3)) having a much larger resistance than the attenuating resistor (Peiser et al., Fig. 1, (R)) because otherwise a substantial voltage drop would be developed across the attenuating resistor (Peiser et al., Fig. 1, (R)) and a much smaller voltage would drop across the parallel

connected second resistor (Robel et al., Fig. 3, (3)) and the PTC (Robel et al., Fig. 3, (5)) accordingly changing the PTC resistance would have very minor even negligible affect on a value of current. The ratio between the attenuating resistor (Peiser et al., Fig. 1, (R)) and the second resistor (Robel et al., Fig. 3, (3)) is a result effective variable (i.e. variable setting a control gain value of the PTC as was discussed above, therefore it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. **In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).** Additionally, the series connected resistor (i.e. the first resistor/attenuating resistor) should not have a higher value than the second resistor (i.e. parallel connected) because otherwise the current control elements (i.e. R1, R2) would dissipate more power than the consumer (i.e. load) received which will be counter-productive.

16. Regarding claim 9, Peiser et al. in view of Schempp and in view of Robel et al. discloses the system of claim 9, wherein the resistor is a first resistor (Peiser et al., Fig. 1, R) and the circuit comprises two legs in parallel, the first leg including the thermal protection device (Robel et al., Fig. 3, (5)), the attenuating resistor (Peiser et al., Fig. 1, R) and the element with a threshold voltage and current characteristic (Schempp, Fig. 1, (23)), and the second leg including a second resistor (Robel et al., Fig. 3, (3)).

17. Regarding claim 10, Peiser et al. in view of Schempp and in view of Robel et al. discloses all the limitations recited above in claim 7.

18. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Schempp (US 4,794,948) and in view of Robel et



Art Unit: 2836

al. (US 5,939,839) as applied to claim 10 above, and further in view of Streater (US 3,467,903).

19. Regarding claim 11, Peiser et al. in view of Schempp and in view of Robel et al. discloses the protecting system of claim 10, except for wherein the thermal fuse comprises a bimetallic circuit breaker, and the element with a threshold voltage and characteristic comprises two zener diodes push-pull connected with one another.

However, Streater in (Fig. 9) discloses a thermal fuse in the form of a bimetallic circuit breaker (69), and a element with a threshold voltage and characteristic having the form of two zener diodes (72,73) configured in a push-pull connection with one another.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the bimetallic circuit breaker and the two zener diodes configured in a push-pull configuration as taught by Streater in the protective system device of Peiser et al. mentioned combination to provide a much simpler and reliable thermal protective circuit.

20. Regarding claim 12, Peiser et al. in view of Schempp and in view of Robel et al. and Streater discloses the system of claim 10, wherein the thermal fuse (Streater, Fig. 10, 79) comprises a PTC resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises two zener-diodes (Streater, Fig. 9, 72, 73) in a push-pull connection with one another.

21. Regarding claim 13, Peiser et al. in view of Schempp and in view of Robel et al. and Streater discloses the system of claim 10, wherein the thermal fuse is a PTC

resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises a varistor (Streater, , Fig. 9, 71).

22. Regarding claim 14, Peiser et al. in view of Schempp and in view of Robel et al. and Streater discloses the system of claim 10, wherein the thermal fuse is a thermal fuse in the form of a bimetallic circuit breaker (Streater, Fig. 9, 69), and the element with a threshold voltage and current characteristic is a varistor (Streater, Fig. 9, 71).

### ***Response to Arguments***

23. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **TERRENCE R. WILLOUGHBY** whose telephone number is (571)272-2725. The examiner can normally be reached on 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

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TRW  
7/9/08

/Stephen W Jackson/

Primary Examiner, Art Unit 2836